

REMARKS

The Office Action has been carefully reviewed. Claims 1-30 are pending. Claims 1, 14-16, 18-22, 24, 25, 27 and 29 have been amended. Claims 4-14, 18-22 and 24 have been amended to refer to prior claims in the alternative. Claims 1, 16, 25, 27 and 29 have been amended to claim that the trimer acid is derived from tall oil fatty acid; to more particularly set forth the reaction conditions for the first reactants and the second reactants; and to specify that a absorption of the composition by polypropylene is limited to about 5 wt.% or less over a period of up to four weeks. Support for the amendments to claims 1, 16, 25, 27 and 29 can be found in the Specification as originally filed at least at Paras. [0024]; [0050]-[0063]. *See* U.S. Patent Application Publication US 2007/0275864 A1.

Claims 4-14, 18-22 and 24 have been objected to under 37 C.F.R. § 1.75(c) as allegedly being of improper multiple dependent form for failing to further limit the subject matter of a previous claim. *See* Office Action at ¶ 1. Claims 4-14, 18-22 and 24 have further been objected to under 37 C.F.R. § 1.75(c) as allegedly being in improper form because a multiple dependent claim should refer to other claims in the alternative only. *See id.* at ¶ 2. Claims 1-30 have been rejected under 35 U.S.C. § 112, second paragraph, as allegedly being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. *See id.* at ¶ 4. Claims 1-2, 4-16 and 18-24 have been rejected under 35 U.S.C. § 102(b) as allegedly anticipated by U.S. Patent No. 4036771 to Denis *et. al.* ("Denis"). *See id.* at ¶ 6. Claims 3 and 17 have been rejected as allegedly unpatentable under 35 U.S.C. § 103(a) over Denis. *See id.* at ¶ 9. Claims 25-30 have been rejected as allegedly unpatentable under 35 U.S.C. § 103(a) over U.S. Patent No. 6010984 to Heimann *et. al.* ("Heimann") in view of Denis. *See id.* at ¶ 10. Applicants respond as follows.

I. Information Disclosure Statement.

Applicants thank the Examiner for considering the U.S. patent references listed on the Information Disclosure Statement that was filed on December 15, 2009. Applicants have submitted an English language abstract for foreign patent EP0541007 and respectfully request that the Examiner consider this reference and mark it as of record in the Application.

II. Objections under 37 C.F.R. § 1.75(c).

Claims 4-14, 18-22 and 24 have been objected to under 37 C.F.R. § 1.75(c) as allegedly

being of improper multiple dependent form for failing to further limit the subject matter of a previous claim. *See* Office Action at ¶ 1. Claims 4-14, 18-22 and 24 have further been objected to under 37 C.F.R. § 1.75(c) as allegedly being in improper form because a multiple dependent claim should refer to other claims in the alternative only. *See* Office Action at ¶ 2.

Claims 4-14, 18-22 and 24 have been amended to place the claims in proper multiple dependent form. Specifically, claims 4-14, 18-22 and 24 have been amended to refer to other claims in the alternative only per MPEP § 608.01(n). Applicants respectfully request that the objection to claims 4-14, 18-22 and 24 under 37 C.F.R. § 1.75(c) be withdrawn in view of the claim amendments.

III. Rejections under 35 U.S.C. § 112, Second Paragraph.

Claims 1-30 have been rejected under 35 U.S.C. § 112, second paragraph, as allegedly being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. *See* Office Action at ¶ 4. Specifically, the Examiner asserts that the claims do not set forth reaction ratios between the reactants, reaction conditions (temperature, pressure), or the desired product or products. *Id.* Accordingly, the Examiner concludes that “it is unclear what possible ester products the claims encompass, and it is not clear what possible ester products are precluded to others.” *Id.*

Independent claims 1, 16, 25, 27 and 29 have been amended to claim that the trimer acid is derived from tall oil fatty acid and to more particularly set forth the reaction conditions for the first reactants and the second reactants. Support for the amendments to claims 1, 16, 25, 27 and 29 can be found in the Specification as originally filed at least at Paras. [0024]; [0050]-[0062]. *See* U.S. Patent Application Publication US 2007/0275864 A1.

Applicants respectfully submit that the rejection should be withdrawn in view of the claim amendments.

IV. Rejection under 35 U.S.C. § 102(b).

Claims 1-2, 4-16 and 18-24 have been rejected under 35 U.S.C. § 102(b) as allegedly anticipated Denis. *See* Office Action at ¶ 6. Specifically, the Examiner asserts that “Denis discloses a composition comprising a mixture of complex ester oils (Col. 2/L. 55-57) wherein each ester oil is the result of esterification of a trimer and dimer acid with a dihydroxyl compound and a monohydroxyl compound (as recited in claims 1-2 and 16) (Col. 1-2/L. 51-54).

Denis discloses that the dimer and trimer acids results from the dimerization or trimerization of unsaturated fatty acids wherein the dimerization or trimerization [sic] can be followed by a hydrogenation operation (as recited in claims 4 and 18) (Col. 3/L. 12-18). Denis discloses that the dihydroxyl compounds include ethylene glycol and neopentyl glycol (as recited in claims 7-9 and 23) (Col. 4/L. 12-24) and the monohydric alcohols include isotridecanol and 2-ethylhexanol (as recited in claims 5-6, 10-11, 19-21 and 23) (Col. 4/L. 25-35). Denis discloses both a first and second complex ester wherein the first ester has all the reaction components of the instant claims as does the second ester.” *Id.* The Examiner concludes that “it is the position of the examiner that the first ester would inherently have a higher viscosity than the second ester as recited in instant claims 12 and 22-23 and that the combination of complex esters would have a viscosity measured at 100°C of about 40 cSt as recited in instant claims 13-16.” *Id.*

Denis discloses lubricating compositions consisting of homogeneous mixtures of at least one mineral or synthetic hydrocarbon oil of lubricating viscosity; at least one complex ester composition; and optionally at least one light ester. *See* Abstract; Col. 1, lines 24-33. According to Denis, [t]he formulation of multigrade oils from hydrocarbon oils of mineral or synthetic origin generally requires the addition of relatively large amounts of additives which are intended to improve their viscosity index, although they generally suffer from the disadvantage of unsatisfactory heat stability and mechanical stability, under the sever temperature and loading conditions to which oils may be subjected.” *See* Col. 1, lines 6-13. Denis further notes that “[i]t has now been found that some compositions of the complex ester type could advantageously be used as components of lubricating bases for multigrade oils, in mixture with mineral or synthetic hydrocarbon oils.” *Id.* at lines 20-26. Thus, Denis discloses how to increase the viscosity of a multigrade oil by mixing complex esters as a component in mixture with mineral or synthetic hydrocarbon oils.

Applicants respectfully submit that Denis does not disclose each and every limitation of claims 1-2, 4-16 and 18-24, as amended. Specifically, claims 1-2, 4-16 and 18-24 have been amended to include the limitation that polypropylene increases about 5 wt.% or less through absorption of the composition following exposure of the polypropylene and the composition at a temperature of about 80°C for a period of up to four weeks. Many of the complex esters

disclosed by Denis do not demonstrate similar compatibility towards polypropylene as do the claimed compositions. *See* Declaration of Lloyd Nelson, ¶ 11.

Additionally, Denis does not clearly name the current claimed esters comprising a reaction product of first reactants comprising trimer acid derived from tall oil fatty acids. *See* MPEP § 2131.02 (“A genus does not always anticipate a claim to a species within the genus.”) Denis discloses dimeric and trimeric acids for use in forming its complex ester compositions, and specifically discloses as suitable dimeric or trimeric acids resulting from the dimerization or trimerization of the following unsaturated fatty acids:

- tetradecenoic acids (such as myristeleic acid);
- hexadecenoic acids (such as palmitoleic acid);
- octadecenoic acids (such as oleic acid);
- octadecadienoic acids (such as linoleic acid);
- octadecatrienoic acids (such as linolenic acid);
- cicosenoic acids;
- docosenoic acids (such as erucic acid or brassidic acid);
- natural or synthetic mixtures of a plurality of such acids, for example:
 - fatty soya bean acids which contain inter alia about 25% of octadecenoic acid, 45% of octadecadienoic acid and 7% of octadecatrienoic acid;
 - fatty linseed oil acids which contain inter alia about 20% of octadecenoic acid, 15% of octadecadienoic acid and 50% of octadecatrienoic acid;
 - fatty spermaceti oil acids which contain inter alia about 5% of tetradecenoic acid, 15% of hexadecenoic acid, 35% of octadecenoic acid and 1% of octadecadienoic acid;
 - fatty colza oil acids which contain inter alia about 18% of octadecenoic acid, 19% of octadecadienoic acid, 8% of octadecatrienoic acid, 6% of cicosenoic acid and 42% of docosenoic acid; and
- di- and tricarboxylic acids resulting from the dimerization or trimerization of hydroxycarboxylic acids such as ricinoleic acid.

See Col. 3, lines 21-52. Denis’ disclosure embraces a large number of species of fatty acids for use as the source of its dimeric and trimeric acids and therefore does not anticipate the present claims to esters comprising a reaction product of first reactants comprising trimer acid

derived from tall oil fatty acids. *See In re Meyer*, 599 F.2d 1026, 202 USPQ 175 (CCPA 1979) (“A reference disclosing ‘alkaline chlorine or bromine solution’ embraces a large number of species and cannot be said to anticipate claims to ‘alkali metal hypochlorite.’”); *Akzo N.V. v. Int’l Trade Comm’n*, 808 F.2d 1471, 1 USPQ2d 1241 (Fed. Cir. 1986) (“Claims to a process for making aramid fibers using a 98% solution of sulfuric acid were not anticipated by a reference which disclosed using sulfuric acid solution but which did not disclose using a 98% concentrated sulfuric acid solution.”); *see also* MPIP 2131.02.

Accordingly, Applicants respectfully submit that Denis does not anticipate claims 1-2, 4-16 and 18-24, as amended, and request that this rejection be withdrawn.

V. Rejections under 35 U.S.C. § 103(a).

Claims 3 and 17 have been rejected as allegedly unpatentable under 35 U.S.C. § 103(a) over Denis. *See* Office Action at ¶ 9. Claims 25-30 have been rejected as allegedly unpatentable under 35 U.S.C. § 103(a) over Heimann in view of Denis. *See* Office Action at ¶ 10. Applicants respectfully submit that claims 3 and 17 are not obvious under Denis, and that claims 25-30 are not obvious under Heimann in view of Denis.

Recently, the U.S. Patent & Trademark Office issued a Guidelines Update to the 2007 KSR Guidelines regarding the reasoning required to support an obviousness determination. *See* Examination Guidelines Update: Developments in the Obviousness Inquiry after *KSR v. Teleflex*, 1358 OG 372-404. The 2007 KSR Guidelines noted that the teaching-suggestion- motivation (TSM) test was but one possible approach in making such a determination, and they identified the following six other rationales that could also be used:

- (1) combining prior art elements according to known methods to yield predictable results;
- (2) simple substitution of one known element for another to obtain predictable results;
- (3) use of a known technique to improve similar devices, methods, or products in the same way;
- (4) applying a known technique to a known device, method, or product ready for improvement to yield predictable results;
- (5) obvious to try - choosing from a finite number of identified, predictable solutions, with a reasonable expectation of success; and

(6) known work in one field of endeavor may prompt variations of it for use in either the same field or a different one based on design incentives or other market forces if the variations are predictable to one of ordinary skill in the art.

A. Claims 3 and 17 over Denis.

Claims 3 and 17 have been rejected as allegedly unpatentable under 35 U.S.C. § 103(a) over Denis. *See id.* at ¶ 9. Specifically, the Examiner asserts that Denis “discloses complex ester compositions comprising dimer and trimer acids reacted with a dihydroxyl compound and a monohydroxyl compound . . . Denis does not explicitly disclose the weight ratio of dimer to trimer acid in the complex ester reaction.” *Id.* The Examiner concludes that “Denis does, however, disclose that the compositions of the invention can result from esterification of mixtures in varying proportions of dimeric + trimeric acids and monocarboxylic acids by a polyalkylene glycol, the proportions of the reagents then being such that to 1 mole of acid (dimeric + trimeric) there substantially corresponds 2 moles of polyalkylene glycol and the number of moles of monocarboxylic acid necessary to esterify the remaining hydroxyl functions. It would have been obvious to one of ordinary skill in the art at the time of the invention that the weight ratio of trimer to dimer acid would fall within the range of 80:20 to 20:80 wt% based on the disclosure of Denis.” *Id.*

Claim 3 is dependent on claim 1, and claim 17 is dependent on claim 16. Claims 1 and 16 have been amended to include the limitation that polypropylene increases about 5 wt.% or less through absorption of the claimed ester compositions following exposure of the polypropylene and the composition at a temperature of about 80°C for a period of up to four weeks. Many of the complex esters disclosed by Denis do not demonstrate similar compatibility towards polypropylene as do the claimed compositions. *See Declaration of Lloyd Nelson, ¶ 11.* Applicants respectfully submit that it would not have been predictable, nor would there have been a reasonable expectation of success, to modify Denis as suggested by the Examiner to arrive at the claimed inventions of claims 3 and 17. Modification of the complex ester compositions expressly disclosed in Denis in fact would have NOT resulted in the invention of claims 3 and 17 because most of the complex esters disclosed in Denis would NOT meet the limitation of absorption by polypropylene. *See Examination Guidelines Update: Developments in the Obviousness Inquiry after KSR v. Teleflex*, 1358 OG 372-404.

Further, claims 1 and 16 have been amended to include the limitations that the claimed esters comprising a reaction product of first reactants comprising trimer acid derived from tall oil fatty acids. There would have been no motivation from Denis to make its complex ester compositions specifically from dimer and trimer acids resulting from the dimerization and trimerization of tall oil fatty acids because there would have been no motivation under Denis to make complex esters by the dimerization or trimerization of tall oil fatty acids. Denis sought complex ester compositions suitable for use as components of lubricating bases for multigrade oils, in mixture with mineral or synthetic hydrocarbon oils, to reduce the amount of viscosity number improving additives in such oils. Col. 1 at lines 20-26. In contrast, the esters of claims 1 and 16 must exhibit specific compatibility with polypropylene. As noted in the Lloyd Declaration, most of the complex esters of Denis do NOT exhibit the required polypropylene compatibility. See Lloyd Declaration at ¶ 11. Accordingly, one of ordinary skill in the art would not have been motivated to select the esters derived from tall oil fatty acids of claims 1 and 16 pursuant to the teachings of Denis. See MPEP § 2144.08(II)(A)(4); *In re Dillon*, 919 F.2d 688, 692-93, 16 USPQ2d 1897, 1901 (Fed. Cir. 1990); *In re Stemmiski*, 444 F.2d 581, 586, 170 USPQ 343, 348 (CCPA 1971); *In re Albrecht*, 514 F.2d 1389, 1392, 185 USPQ 585, 587, 590 (CCPA 1975).

Accordingly, Applicants respectfully request that this rejection be withdrawn.

B. Claims 25-30 over Heimann in View of Denis.

Claims 25-30 have been rejected as allegedly unpatentable under 35 U.S.C. § 103(a) over Heimann in view of Denis. See Office Action at ¶ 10. The Examiner asserts that “Heimann discloses a lubricant composition for optical fiber cables (Col. 9/L. 31) comprising a silica/silicate mixture (see Abstract), a base oil and a thickener. Heimann discloses base oil that include synthetic esters (Col. 3/L. 8-17), but Heimann does not explicitly disclose a mixture of complex esters that include the reaction components of a trimer acid, a polyhydric alcohol and a monohydric alcohol. Denis discloses a composition comprising a mixture of complex ester oils (Col. 2/L. 55-57) wherein each ester oil is the result of esterification of a trimer and dimer acid with a dihydroxyl compound and a monohydroxyl compound (Col. 1-2/L. 51-54). Denis discloses that the dihydroxyl compounds include ethylene glycol and neopentyl glycol (Col. 4/L. 12-24) and the monohydric alcohols include isotridecanol and 2-ethylhexanol (Col. 4/L. 25-35).

Denis discloses both a first and second complex ester wherein the first ester has all the reaction components of the instant claims as does the second ester.” *Id.* The Examiner concludes “[t]herefore, it is the position of the examiner that the first ester would inherently have a higher viscosity than the second ester and that the combination of complex esters would have a viscosity measured at 100°C of about 40cSt. It would have been obvious to one of ordinary skill in the art at the time of the invention to use the complex ester composition of Denis in the composition of Heimann to enhance the anti-scuffing properties and reduce the coefficient of friction of the composition (Col. 9/L. 29-35 of Denis).” *Id.*

Applicants respectfully submit that claims 25, 27 and 29 have been amended to include the limitations that the claimed esters comprising a reaction product of first reactants comprising trimer acid derived from tall oil fatty acids and that polypropylene increases about 5 wt.% or less through absorption of the claimed ester compositions following exposure of the polypropylene and the composition at a temperature of about 80°C for a period of up to four weeks. As previously discussed, it would not have been obvious in view of Denis to create the esters of claims 25, 27 and 29 because most of the complex esters of Denis do not meet these limitations. Further, there are no teachings in Denis to select complex esters that include these properties.

Accordingly, for the same reasons discussed previously in Section V(A), Applicants respectfully request that this rejection be withdrawn because one of ordinary skill in the art would not have been motivated to select the esters derived from tall oil fatty acids of claims 1 and 16 pursuant to the teachings of Denis. *See* MPEP § 2144.08(II)(A)(4); *In re Dillon*, 919 F.2d at 692-93, 16 USPQ2d at 1901; *In re Stenniski*, 444 F.2d at 586, 170 USPQ at 348; *In re Albrecht*, 514 F.2d at 1392, 185 USPQ at 587, 590.

Conclusion

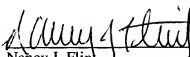
Applicant respectfully submits that claims 1-30 are in condition for allowance and request allowance of the same.

A Request for a Three Month Extension of Time to file this Response of \$1110.00 is hereby filed, along with a Petition to Revive Unintentionally Abandoned Application and the required fee of \$1620.00. If any other fees are determined to be due, the Commissioner is hereby authorized to charge such fees to Deposit Account No. 50-4222.

Respectfully submitted,

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By:



Nancy J. Flint
Registration No. 46,704

Attorney for Arizona Chemical Company,
LLC
Intellectual Property Department (Legal)
P.O. Box 550850
Jacksonville, Florida 32255